TD 428 A37 C38 1993

September 24, 1993

Catherine Ling
District Engineer-Monterey District
California Department of Health Services
2151 Berkeley Way
Berkeley, CA 94704-1011

Dear Ms. Ling:

Subject: Cattle Management Plan

In December 1989, as part of the Santa Clara Valley Water District's (District's) Water Permit # 02-88-005, a "Watershed Management Plan" for the District's terminal reservoirs (Almaden/Calero, and Anderson/Coyote) was prepared. Identified in this Watershed Management Plan was an action item for the District to develop a plan to restrict cattle access to the reservoir waters. At the time this Watershed Management Plan was prepared, cattle were observed grazing in and along Anderson and Coyote Reservoirs, and around the water downstream of the Calero Plunge Pool. When the Department of Health Services (DHS) approved the Watershed Management Plan in April 1990, DHS directed the District to address the action items listed in this Plan. In a letter from the District to your office dated 5/11/92, the District requested that the deadline to submit this cattle management plan be in September 1993. This request was approved by your office.

The following pages document the District's plan for cattle management at these reservoir sites and the current work done in this effort. If you have any questions, please call me at the Camden office at (408) 927-0710 x 2723 or Pam John at extension 2601.

Thank you.

Sincerely,

ORIGINAL SIGNED BY

Kathleen M. Russick
Associate Civil Engineer
Surface Water Protection Division

Enclosure

cc(w/attach.): W. Wadlow, F. Maitski, K. Russick, P. John, Read, File

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Santa Clara Valley Water District

PROPERTY OF SANTA CLARA VALLEY
WATER DISTRICT
5750 Almaden Expressway
San Jose, California 95118

Cattle Management Plan at District's Terminal Reservoir Watershed Sites

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Attachments

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BACKGROUND

This cattle management plan is a requirement of the California Department of Health Services (refer to Water Permit No. 02-88-005). Cattle were identified as a possible source of contamination in Anderson/Coyote reservoir watershed and in the Calero watershed. This cattle management plan will seek to ensure that source water contamination from cattle will not threaten the District's goal to provide high quality water to the residents of Santa Clara County.

The Santa Clara Valley Water District (District) owns ten reservoirs in Santa Clara County. These reservoirs are used primarily for groundwater recharge and provide some incidental flood control benefits. Although the largest volume of the reservoirs' water is for groundwater recharge, the District uses water from Anderson, Coyote, Calero and Almaden Reservoirs to meet the demand for drinking water in Santa Clara County. Water from Anderson and Calero reservoirs can be, and is, transmitted to the District's treatment plants. They are hence referred to as terminal reservoirs. Coyote reservoir is upstream from Anderson reservoir and is connected via Coyote Creek. Similarly, Almaden reservoir is upstream from Calero reservoir and is connected by a constructed open channel, called the Almaden-Calero Canal. The following breakdown of reservoir surface areas are given together with the approximate amounts of District-owned lands to help envision the complexity of the land ownership issues in these watersheds.

Calero Reservoir

Calero Reservoir is approximately 347 acres (surface area) at spillway elevation with a capacity of approximately 10,050 acre-feet. The drainage area for this reservoir is approximately 4,474 acres. The District owns approximately 860 acres of this watershed land.

Almaden Reservoir

Almaden Reservoir is approximately 59 acres (surface area) at spillway elevation with a capacity of approximately 1,780 acre-feet. The drainage area for this reservoir is approximately 7,680 acres. The District owns approximately 178 acres of this watershed land.

Coyote Reservoir

Coyote Reservoir is approximately 648 acres (surface area) at spillway elevation with a capacity of approximately 22,925 acre-feet. The drainage area for this reservoir is approximately 75,955 acres. The District owns approximately 193 acres of this watershed land.

Anderson Reservoir

Anderson Reservoir is approximately 1,245 acres (surface area) at spillway elevation with a capacity of approximately 89,093 acre-feet. The drainage area for Coyote is in Anderson's watershed. The additional drainage area for this reservoir, outside of Coyote's watershed, is approximately 47,386 acres. The District owns approximately 1,400 acres of this watershed land.

CATTLE MANAGEMENT PLAN

This cattle management plan will seek to

1. Document the District's current source water monitoring at these reservoirs
2. Document the results of the cattle survey, based on the questionnaire sent out by the District
3. Document tasks proposed by the Santa Clara County Parks and Recreation Department on cattle management within these watersheds
4. Address the alternatives that can be used to protect source water
5. Provide recommendations for the District's cattle management plan

EXISTING DISTRICT MONITORING PLANS

The District has established a monitoring plan for *Giardia* and *Cryptosporidium* in Calero and Anderson reservoirs and also for the treated water effluent from the District's three treatment plants. *Giardia* and *Cryptosporidium* are enteric protozoa parasites that can cause waterborne diseases. Occurrences of both these protozoa are commonly associated with types of agricultural runoff (i.e. cattle ranching). This monitoring effort for *Giardia* and *Cryptosporidium* is helping the District establish baseline data for characterizing reservoir and watershed water quality. The District continues to monitor for these protozoa on a semiannual basis and is currently considering starting monthly monitoring in fall 1994 for the upcoming Information Collection Rule.

The District has established (in June 1993) a Basin-Wide Monitoring plan for Calero and Anderson Reservoir watersheds that will allow characterization of the quality of the local runoff, and identification of areas where contamination may be occurring. The monitoring for the Basin-Wide Plan will be conducted quarterly during the April 1 - September 30 (dry season) and monthly for the other months (rainy season). Water quality parameters that are being monitored are bacteria (total coliform, fecal coliform, and fecal streptococcus) and nutrients (total nitrogen, orthophosphate-P, nitrate-N, and ammonia-N). All this monitoring will provide information on nutrient and contaminant loading coming from cattle pastures in the watersheds.

The District has established an algae monitoring plan for Calero and Anderson Reservoirs. The occurrence of algae can be correlated to the amount of nutrients available. This algae monitoring could detect non-point source pollution from cattle and agricultural activities in the reservoir watersheds.

The District has established monitoring for the Emergency Reservoir Operations Plan (EROP). Due to the incidental body contact recreation that occurs on Anderson, Coyote, and Calero Reservoirs, DHS required the District to conduct monitoring on Anderson and Calero Reservoirs. This monitoring consists of bacteriological and Disinfection By-Product formation potential analyses and is used to compare the water quality of these reservoirs to the alternate water supply sources (i.e. San Luis Reservoir and the South Bay Aqueduct). The bacteriological information (total coliform, fecal coliform, and fecal streptococcus) will be useful in estimating the contribution from cattle in the watersheds.

Below, the table shows monitoring sites both in the reservoir and of the treatment plant influent.

District *Cryptosporidium* Sampling Results

DATE	ANALYSES	SAMPLE SITE	SAMPLE VOLUME (gallons)	RESULT (# of cysts/ or oocysts)	CONC. (#/# gal)
6/12/91	Crypto	Calero Inlet	241	<1	<1 / 120.5 gals
6/13/91	Crypto	Calero West Beach	202	<1	<1 / 101.0 gals
6/13/91	Crypto	Calero Portal	200	<1	<1 / 100.0 gals
12/4/91	Crypto	Calero Portal	310	<1	<1 / 155.0 gals
12/4/91	Crypto	Rinconada Raw (Anderson)	315	<1	<1 / 157.0 gals
12/5/91	Crypto	Santa Teresa Raw (Anderson)	218	1	1 / 109.0 gals
6/11/92	Crypto	Calero Portal	200	<1	<1 / 100.0 gals
6/11/92	Crypto	Calero Horse Ranch	200	1	1 / 100.0 gals
11/6/92	Crypto	Santa Teresa Raw (Calero)	166	<1	<1 / 83.0 gals
11/9/92	Crypto	Calero Horse Ranch	100	Invalid	Invalid
11/9/92	Crypto	Calero Portal	100	2	1 / 50.0 gals
12/29/92	Crypto	Calero Portal	100	<1	<1 / 50.0 gals

District *Giardia* Sampling Results

DATE	ANALYSES	SAMPLE SITE	SAMPLE VOLUME (gallons)	RESULT (# of cysts or oocysts)	CONC. (#/# gal)
6/12/91	Giardia	Calero Inlet	241	<1	<1 / 120.5 gals
6/13/91	Giardia	Calero Portal	200	<1	<1 / 100.0 gals
6/13/91	Giardia	Calero West Beach	202	<1	<1 / 101.0 gals
12/4/91	Giardia	Calero Portal	310	<1	<1 / 155.0 gals
12/4/91	Giardia	Rinconada Raw (Anderson)	315	<1	<1 / 157.5 gals
12/5/91	Giardia	Santa Teresa Raw (Anderson)	218	<1	<1 / 109.0 gals
6/11/92	Giardia	Calero Horse Ranch	200	<1	<1 / 100.0 gals
6/11/92	Giardia	Calero Portal	200	<1	<1 / 100.0 gals
11/6/92	Giardia	Santa Teresa Fin (Calero)	650	<1	<1 / 325 gals
11/9/92	Giardia	Calero Horse Ranch	100	<1	<1 / 50 gals
11/9/92	Giardia	Calero Portal	100	<1	<1 / 50 gals
12/29/92	Giardia	Calero Portal	100	<1	<1 / 50 gals

* Invalid sample was due to unidentified fluorescing organism

BASIN-WIDE MONITORING SAMPLE RESULTS

Nutrient and Bacteria Information

SITE	DATE	NH3-N (mg/l)	NO3-N (mg/l)	Tot.Col (mpn/ 100ml)	Fec.Col (mpn/ 100ml)	Fcl.Stp (#/ 100ml)	Total N (mg/l)	PO4-P (mg/l)
A1-PC	6/14/93	<0.05	2.40	900	900	250	NT	<0.05
A2-SV	6/14/93	<0.05	0.0	1600	500	262	NT	0.05
A3-CO	6/14/93	<0.05	<0.05	70	23	32	NT	0.0
A4-AO	6/14/93	<0.05	0.56	23	8	<1	NT	<0.05
A1-PC	8/16/93	<0.05	1.83	80	50	210	0.2	<0.05
A2-SV	8/16/93	<0.05	6.78	500	300	1096	0.1	0.10
A3-CO	8/16/93	<0.05	0.05	280	80	66	0.4	0.0
A4-AO	8/16/93	<0.05	0.62	<2	<2	<1	0.4	<0.05

A1-PC	Anderson Watershed, Packwood Creek
A2-SV	Anderson Watershed, Shingle Valley
A3-CO	Anderson Watershed, d/s Coyote dam
A4-AO	Anderson Watershed, Anderson Outlet

NT-	Not Tested

BASIN-WIDE MONITORING SAMPLE RESULTS

Nutrient and Bacteria Information

SITE	DATE	NH3-N mg/l	NO3-N mg/l	Tot.Col mpn/100ml	Fec.Col mpn/100ml	Fcl.Stp #/100 ml	TOT. N mg/l	PO4-P mg/l
C1-AC	6/22/93	NT	0.0	170	50	158	NT	0.0
C2-CC	6/22/93	NTNF	NTNF	NTNF	NTNF	NTNF	NTNF	NTNF
C3-HR	6/08/93	0.06	0.0	30	13	23	NT	0.0
C4-UH	6/08/93	NTNF	NTNF	NTNF	NTNF	NTNF	NTNF	NTNF
C5-CO	6/22/93	NT	0.2	240	130	30	NT	<0.05
C1-AC	8/26/93	NTNF	NTNF	NTNF	NTNF	NTNF	NTNF	NTNF
C2-CC	8/26/93	NTNF	NTNF	NTNF	NTNF	NTNF	NTNF	NTNF
C3-HR	8/26/93	<0.05	<0.05	4	2	<1	0.4	0.16
C4-UH	8/26/93	NTNF	NTNF	NTNF	NTNF	NTNF	NTNF	NTNF
C5-CO	8/26/93	0.0	0.0	90	90	76	0.5	0.13

C1-AC	Calero Watershed, Almaden Canal
C2-CC	Calero Watershed, Cherry Cove upstream
C3-HR	Calero Watershed, Horse Ranch
C4-UH	Calero Watershed, Upstream of Horse Ranch
C5-CO	Calero Watershed, Outflow into Calero Creek

NTNF	Not Tested due to No Flow
NT	Not Tested

CATTLE SURVEY

In order to quantify the number of head of cattle that are within the watersheds of concern, the District identified landowners who have parcels next to the reservoirs or major tributaries. So far, two sets of questionnaires have been sent out to these landowners. Copies of the two questionnaires are included in this report, together with a summary of the results that have been obtained thus far.

The following is a list of all privately owned large parcels of agriculture/pasture/grazing land in the Anderson/Coyote watershed that are adjacent to the reservoirs or major tributaries:

COYOTE/ANDERSON WATERSHED

APN	ACREAGE	LOCATION	OWNER'S I.D. NUMBER
627-13-003	640	SHINGLE VALLEY	OWNER 1
627-13-004	640	SHINGLE VALLEY	OWNER 1
627-13-005	328	SHINGLE VALLEY	OWNER 1
627-13-006	403	SHINGLE VALLEY	OWNER 1
627-13-007	320	LAS ANIMAS CK	OWNER 1
627-13-008	2.4	ANDERSON RES	OWNER 2
627-13-009	182	SAN FELIPE CK	OWNER 3
627-13-010	431	SAN FELIPE CK	OWNER 3
627-13-011	401	SAN FELIPE CK	OWNER 3
627-14-020	582	ANDERSON RES	OWNER 2
627-14-022	532	PACKWOOD CK	OWNER 2
627-14-024	284	SAN FELIPE CK	OWNER 2
627-14-030	528	SAN FELIPE CK	OWNER 2
627-14-031	13	LAS ANIMAS CK	OWNER 4
627-14-032	302	PACKWOOD CK	OWNER 5
627-14-033	18	PACKWOOD CK	OWNER 2
627-15-001	265	SAN FELIPE CK	OWNER 5
627-15-002	634	SAN FELIPE CK	OWNER 5
727-30-014	517	PACKWOOD CK	OWNER 6
727-30-043	526	PACKWOOD CK	OWNER 6
727-30-046	295	PACKWOOD CK	OWNER 6
727-40-004	35	ANDERSON RES	OWNER 2
727-40-005	18	ANDERSON RES	OWNER 2
727-40-009	117	ANDERSON RES	OWNER 2
727-40-011	148	PACKWOOD CK	OWNER 5

APN	ACREAGE	LOCATION	OWNER'S I.D. NUMBER
727-40-012	432	ANDERSON RES	OWNER 2
865-01-002	210	PACKWOOD CK	OWNER 7
865-01-011	205	PACKWOOD CK	OWNER 7
865-05-008	134	COYOTE CK	OWNER 8
865-06-011	574	ANDERSON RES	OWNER 9
865-06-014	474	COYOTE CK	OWNER 9
865-07-014	643	LARIOS CANYON	OWNER 9
865-07-018	135	LARIOS CANYON	OWNER 10
865-07-019	522	LARIOS CANYON	OWNER 11
865-08-002	240	COYOTE CK	OWNER 8
865-08-003	242	COYOTE CK	OWNER 12
865-08-006	338	COYOTE CK	OWNER 8
898-03-007	126	COYOTE RES	OWNER 13
898-04-002	316	COYOTE RES	OWNER 8
898-06-002	540	COYOTE CK	OWNER 8
898-06-003	610	COYOTE CK	OWNER 8
898-06-009	640	CAN DL OSOS	OWNER 14
898-06-010	623	HUNT. HOLLOW	OWNER 15
898-06-012	464	HUNT. HOLLOW	OWNER 14
898-06-018	582	COYOTE CK	OWNER 16
898-06-022	493	COYOTE CK	OWNER 16
898-07-001	554	HUNT. HOLLOW	OWNER 14
898-08-001	138	HUNT. HOLLOW	OWNER 14
898-08-002	415	HUNT. HOLLOW	OWNER 17

The following lists privately owned agricultural/pasture/grazing land that is adjacent to Calero Reservoir

CALERO RESERVOIR WATERSHED

APN	ACREAGE	LOCATION	OWNER'S I.D. NUMBER
742-09-036	12	CALERO RES	OWNER 1A
742-09-044	325	CALERO RES	OWNER 1A

In May of this year, the District sent out a preliminary questionnaire to the property owners that were identified as having lands zoned agricultural/grazing adjacent to the District's reservoirs. The purpose of this first questionnaire was to establish if the property owners or their tenants had cattle on their land, and to determine contact telephone numbers, names, etc. In early September, 1993, a second questionnaire was sent out to determine information on the acreage used for grazing, if calves were born on the property and if so, at what months of the year, the sources of water for the cattle, and if the cattle had access to the reservoir edge. Below is a summary of the results of these questionnaires:

Questionnaire #1

Coyote/Anderson Watershed

No. of owners identified: 17 (49 land parcels)
No. of questionnaires sent: 17
No. of responses received: 14*

* attempts were made to contact the persons not responding to the questionnaire by telephone, and when questionnaire # 2 was sent out, people who did not respond to questionnaire #1 received a copy of both questionnaires.

Results of questionnaire #1: 6 cattle on 30 acres
0 cattle on 13 acres
0 cattle on 135 acres
0 cattle on 522 acres
60 cattle on 724 acres
75 cattle on 1,800 acres
100 cattle on 2,000 acres
250 cattle on 2,331** acres for approx. 7 months of the year
0 cattle on 242 acres
1,200 cattle on 1,840** acres
550 cattle on 415** acres

500 cattle on 23,000 acres
42 cattle on 1,100 acres
1500 cattle on 2,550** acres

** indicates that these are estimated acreage based on Assessor Parcel information - and have not been verified by a response from the owner.

Calero Watershed

No. of owners identified: 1 (2 land parcels)
No. of questionnaires sent: 1
No. of responses received: 1

Result of questionnaire #1: 40 cattle on 976 acres.

Questionnaire #2

Coyote/Anderson Watershed:
No. of questionnaires sent: 17
No. of responses received: 8
Responses yet to be received:9

Calero Watershed:
No. of questionnaires sent: 1
No. of responses received: 1

Copies of the questionnaires that were sent out are attachments 1,2,3, and 4 at the back of this report. Results and conclusions from these questionnaires will be drawn once the majority of responses come in. Ranchers who responded to Questionnaire #2 so far have indicated that they have springs, stock ponds, etc. on their property and their cattle do not have access to the reservoir shoreline.

RELATED PROGRAMS

Santa Clara County Parks' Cattle Management Program

In a number of reservoir watershed sites, County-owned land is the barrier between the cattle ranchers' land and the District's reservoir. Santa Clara County is a large land owner adjacent to the District's Calero Reservoir for a County Park. Their land holdings for Parks in the Anderson/Coyote reservoir watersheds are also considerable. Current activities performed by County Parks with regard to cattle straying onto County property are a) stray cattle round-up, b) identifying cattle brands (if any) on stray cattle and contacting owners, c) levying a penalty to owners of straying cattle, and d) developing a feasible method to establish new fencing or to repair fences between cattle-grazing lands and County lands. Hence it is vital to document, as part of the District's Cattle Management Plan, what County Parks' progress with local ranchers and property owners on restricting cattle access. In many instances, by restricting cattle access onto County-lands cattle are also prevented from accessing the District's reservoirs. According to Mr. Mark Frederick, County Parks Planner, the County is preparing a proposal to address this fencing issue.

Comprehensive Reservoir Watershed Management Plan (CRWMP)

This CRWMP will be conducted by the District beginning in January 1994 and is scheduled to be completed by December 1996. This project will involve examining 9 of the District's reservoirs (except Vasona). The CRWMP will assess existing watershed conditions and determine the impacts of activities on watershed lands and their impact on reservoir operations and water quality. This large scale effort would study cattle as a potential contamination source to the tributaries and reservoirs.

STUDY OF ALTERNATIVES

In order to provide recommendations on a suitable cattle management plan for the District, the following alternatives were studied and are discussed:

- Fencing

- Providing buffer strip barriers
- Determining significance of contamination based on cattle density and monitoring results
- Continuing *Giardia* and *Cryptosporidium* monitoring and source water monitoring on nutrients and bacteria in order to determine the significance of cattle manure on watershed lands near the reservoirs

Fencing

Fencing Around the Reservoirs

Fencing alone does not reduce all the potential contamination to the reservoir since fencing only prohibits access to the reservoir's edge. Potential for contamination would still exist from cattle access to the many tributaries into these reservoirs and runoff from the rangelands.

A fence has been installed around Calero Plunge Pool. In the past two years, District staff have not observed cattle in Calero reservoir. However, County Parks staff have indicated to the District that they have had cattle from adjacent properties enter County Park lands, requiring the County to remove these cattle. In some areas, there are old or existing fences around cattle ranchers land. County Parks is preparing a proposal to address this fencing issue.

For the Coyote/Anderson reservoir watershed, the District owns very little land around the reservoirs and, in some cases, the District only has a flooding easement to the high-water mark. When the District had obtained easements from some of these ranchers to fill the reservoirs to the high water mark, the property owners retained the right to water their cattle at the reservoir. To change this arrangement would require legal council and the preparation of new agreements with these ranchers. If the District needs to fence the reservoirs, these ranchers will need to be provided with alternate water sources for their cattle in terms of either wells, or pumped water to troughs. This cost for water provision could be significant and is estimated on the next page.

Fencing requirements around Anderson and Coyote reservoirs have been determined as the following:

Approx. perimeter around Coyote Reservoir	39,000 linear feet
Approx. perimeter around Anderson Reservoir	105,500 linear feet

Electric High-tensile Fence

Estimated cost per linear foot:	$ 1.70 (inc. materials & installation)
Estimated cost for fencing (Coyote)	$ 66,300
Estimated cost for fencing (Anderson)	$179,350

The operational and maintenance costs of these fences are not estimated here.
Estimated cost of just fences alone without alternate water provision is approximately $250,000.

Cost of providing water to the cattle ranchers because the reservoir has been fenced

Estimated cost per foot of well depth:	$30.00
Estimated depth of well:	300 feet
Estimated well pump cost (equipment):	$800
Number of wells that may need to be provided:	say 30

Estimated cost of water provision is approximately $300,000

Cost of Providing Electricity

Estimated cost for providing for electricity poles and energizers for the electric fences, and electricity connections to the pumps	say $100,000

The costs shown above for fencing and water provision are rough estimates. Other costs may be required. Also, at some sites, groundwater may not be available for supply to wells.

Fencing Around Major Tributaries

The above costs are for providing fencing around the reservoirs. However, fencing around major tributaries should also be addressed. Cattle currently have access to major creeks and fencing these creeks a suitable distance upstream from the reservoir would require major capital expenditure in terms of land acquisition (besides fence costs). Cattle crossings would also have to be provided at some sites. The costs for fencing major tributaries are not estimated here.

Providing Buffer Strips

In some cases, establishing buffer strips would prevent the transport of nutrients or microbes from cattle manure to the reservoir. The District will be examining the feasibility of buffer strips in the Comprehensive Reservoir Watershed Management Project that the District will be conducting in the next three years.

Determining Significance of Contamination Based on Cattle Density and Monitoring Results

The District has not received 100 % of the information that we requested on cattle numbers and the acreage of grazeland to determine cattle density. The District is pursuing this information. This information, when correlated with the water quality monitoring results, will be a useful index in estimating the contamination potential from cattle.

Continuing *Giardia* and *Cryptosporidium* Source Water Monitoring

The District will continue its monitoring programs on the reservoirs and their tributaries. The *Giardia* and *Cryptosporidium*, Algae, and Basin-Wide monitoring plans together with the Emergency Reservoir Operations Plan's monitoring requirements would provide information on water quality impacts from cattle grazing.

CONCLUSION AND RECOMMENDATIONS

The District will examine the water quality impacts from cattle grazing in its Comprehensive Reservoir Watershed Management Project (CRWMP) over the next three years. As stated in a previous paragraph, this CRWMP will address potential impacts from cattle grazing in lands around the reservoir.

The District recommends continuing water quality monitoring (i.e. for *giardia & cryptosporidium*, nutrients and bacteria) in these watersheds and reservoirs. Based on the water quality information from all three District treatment plants' influent and treated water effluent, at this stage, it appears that cattle at these watersheds have not affected the District's ability to provide safe drinking water to County residents to date. However, since cattle have the potential to become a threat to water quality (particularly *cryptosporidium* contamination), the District would like to further compile baseline information and more questionnaire-derived information including incorporating the CRWMP's results before determining the most feasible means of cattle management. Therefore, the District recommends continuing its intensive water quality monitoring programs at reservoir watershed sites and treatment plants.

FIG. 1

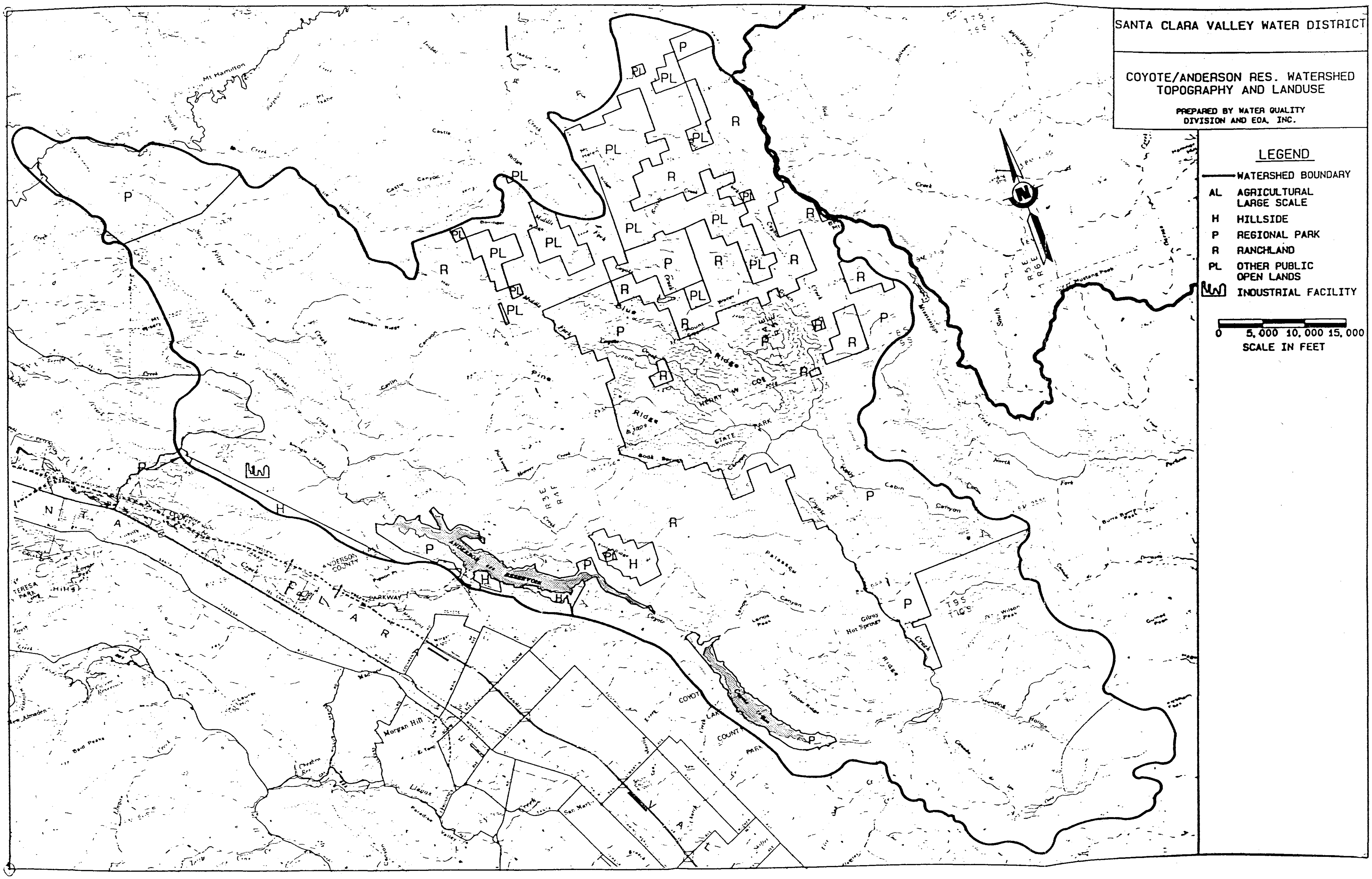
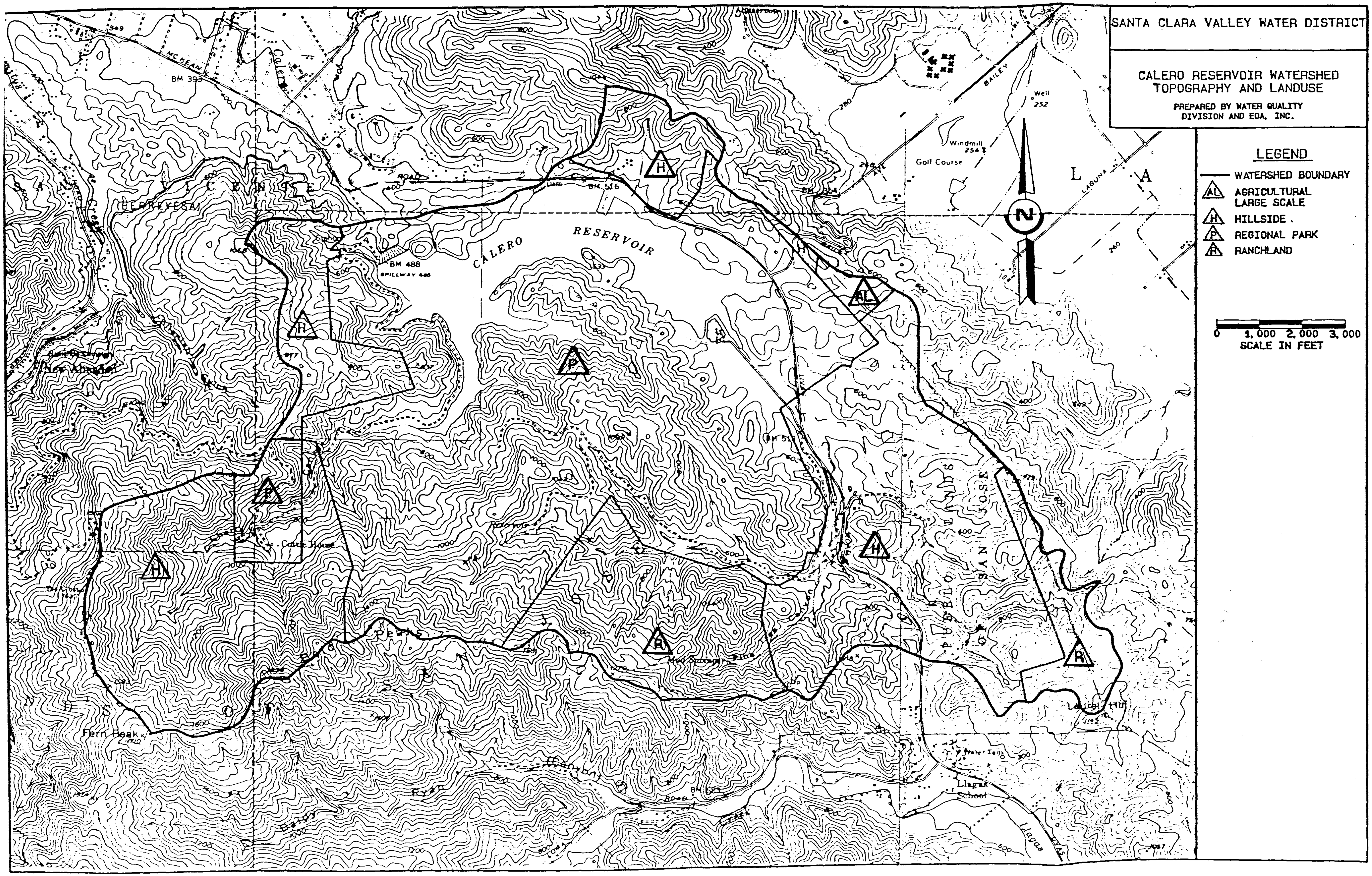

SANTA CLARA VALLEY WATER DISTRICT
COYOTE/ANDERSON RES. WATERSHED
TOPOGRAPHY AND LANDUSE
PREPARED BY WATER QUALITY
DIVISION AND EOA, INC.
LEGEND
WATERSHED BOUNDARY
AL AGRICULTURAL LARGE SCALE
H HILLSIDE
P REGIONAL PARK
R RANCHLAND
PL OTHER PUBLIC OPEN LANDS
INDUSTRIAL FACILITY
0 5,000 10,000 15,000
SCALE IN FEET
N
Mt Hamilton
Castle Canyon
Blue Ridge
Pine Ridge
HENRY W COE STATE PARK
Morgan Hill
Coyote
Gilroy Hot Springs
Anderson Reservoir
Coyote Lake County Park
Parkway
Teresa Park
Llagus
Paradise Valley
Almaden
R3E R4E
R5E R6E
T9S T10S
T7S T8S

FIG. 2


SANTA CLARA VALLEY WATER DISTRICT
CALERO RESERVOIR WATERSHED
TOPOGRAPHY AND LANDUSE
PREPARED BY WATER QUALITY DIVISION AND EOA, INC.
LEGEND
WATERSHED BOUNDARY
AL AGRICULTURAL LARGE SCALE
H HILLSIDE
P REGIONAL PARK
R RANCHLAND
0 1,000 2,000 3,000
SCALE IN FEET
N
CALERO RESERVOIR
BM 488
SPILLWAY 488
BM 516
BM 393
MC KEAN
BAILEY AVE
LAGUNA
Golf Course
Windmill 254
Well 252
New Almaden
Cattle House
Fern Peak
Laurel Hill
Llagas School
Llagas
Water Tank
PUEBLO LANDS OF SAN JOSE
BM 623
Ryan
Bald
Peak
AL
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H
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R
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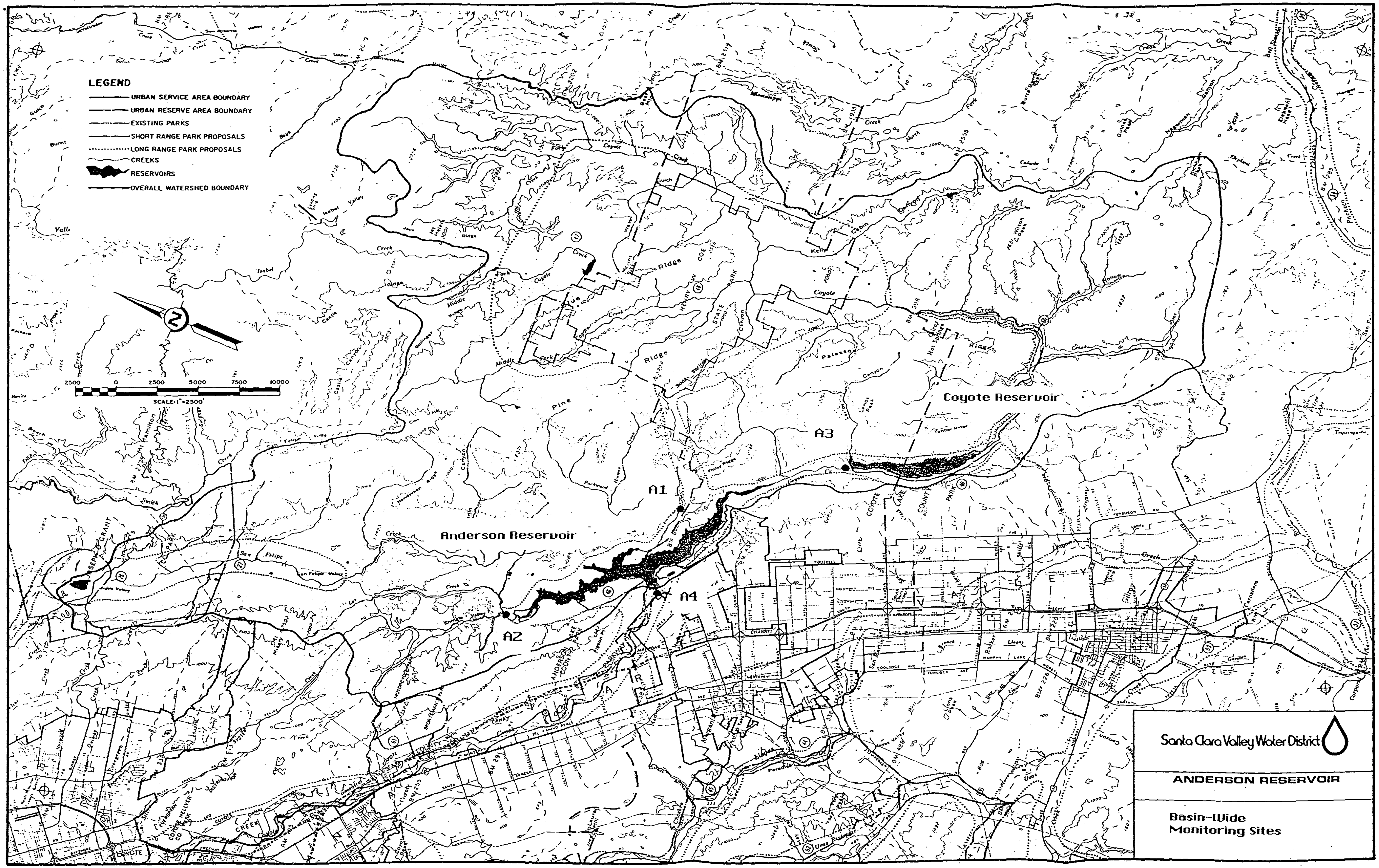
FIG. 3

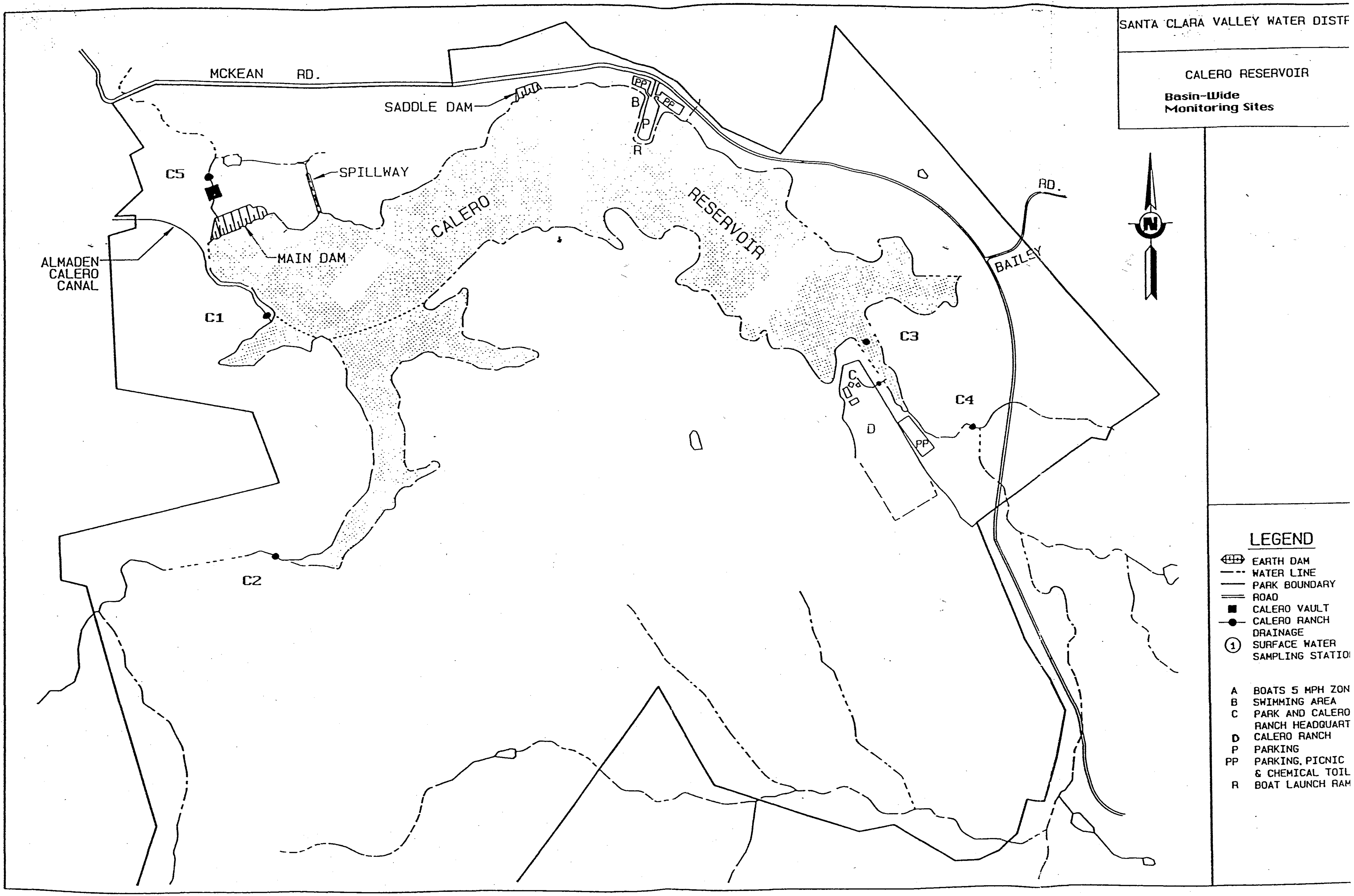

LEGEND
URBAN SERVICE AREA BOUNDARY
URBAN RESERVE AREA BOUNDARY
EXISTING PARKS
SHORT RANGE PARK PROPOSALS
LONG RANGE PARK PROPOSALS
CREEKS
RESERVOIRS
OVERALL WATERSHED BOUNDARY
N
2500 0 2500 5000 7500 10000
SCALE: 1" = 2500'
Coyote Reservoir
Anderson Reservoir
A1
A2
A3
A4

Santa Clara Valley Water District

ANDERSON RESERVOIR

Basin-Wide Monitoring Sites

FIG. 4



SANTA CLARA VALLEY WATER DISTF

CALERO RESERVOIR

Basin-Wide Monitoring Sites

ATTACHMENT 1

SAMPLE

May 4, 1993

Dear Property Owner:

Subject: Livestock (Cattle) Questionnaire

Anderson and Coyote Reservoirs are owned and operated by the Santa Clara Valley Water District. The District is responsible for providing drinking water and flood control protection to Santa Clara County residents. The District operates Anderson and Coyote Reservoirs in order to best meet county water supply needs, although the reservoirs also provide incidental flood control benefits.

The District is currently collecting information on the type of land uses and activities that could affect reservoir water quality. Some agricultural and livestock activities can impact the quality of runoff water. We are contacting you because your property is within either Anderson or Coyote Reservoir watersheds and, according to the Santa Clara County Assessor's maps, your property is currently zoned agriculture/grazing. Therefore, we are interested if your property is currently being used for grazing of livestock and, if so, the number of livestock on your property.

Please take the time to fill out the very simple questionnaire that is attached and return it in the envelope provided. Based on the information that you provide in the questionnaire, we may be contacting you again in the future. If you have any questions regarding this questionnaire, I would be happy to answer them for you. I can be reached at 927-0710 extension 2723 or my assistant, Pam John, can be reached at 927-0710 extension 2601. Thank you for your cooperation.

Sincerely,

ORIGINAL SIGNED BY

Kathleen M. Russick
Associate Civil Engineer
Surface Water Protection Division

Enclosure

cc: W. Wadlow, F. Maitski, K. Russick, P. John, Read, File

SAMPLE

ATTACHMENT 2

LIVESTOCK QUESTIONNAIRE

CATTLE QUESTIONNAIRE # 1

Property Owner's Name:
San Felipe Ranch - Santa Clara, Inc.

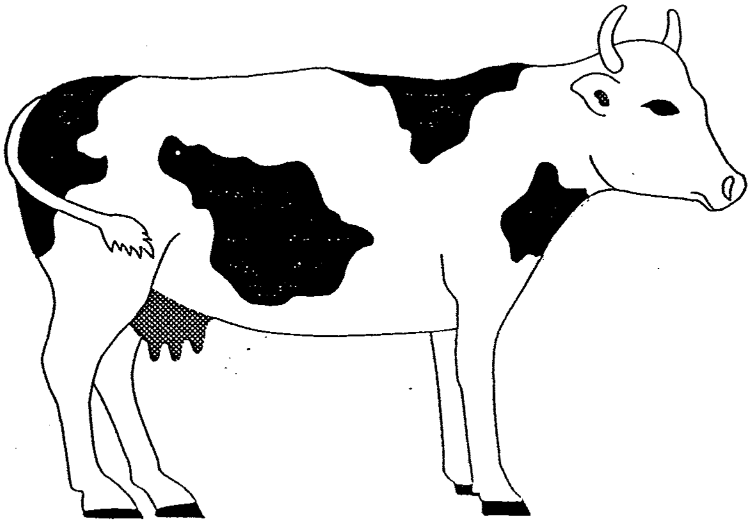
Property Address:
8825 San Felipe Rd
San Jose, CA 95135

Mailing Address (if different from above):

Telephone Number: 408-274-5303

Do you have livestock on your property: ✓ yes ____ no
if yes, number of livestock 500
type of animal Beef Cattle

THANK YOU VERY MUCH FOR YOUR COOPERATION!



SAMPLE

ATTACHMENT 3

IDENTICAL LETTER SENT TO ATTACHED LIST OF ADDRESSES

September 01, 1993

Dear Property Owner:

Subject: Livestock (Cattle) Questionnaire - Additional Information

Thank you very much for your response to the District's first cattle questionnaire in May of this year. As indicated in that first letter, the District is responsible for providing drinking water and flood control protection to Santa Clara County residents. In the past few years, with increasingly stringent drinking water regulations, the State Department of Health Services requires agencies like the District to work towards protecting its reservoir water. The State Department of Health Services is concerned with cattle grazing because some cattle are a source of *cryptosporidium*, a protozoan parasite that can cause diarrhea and vomiting in humans. When this *cryptosporidium* gets into the drinking water sources, it is very difficult to remove and is resistant to chlorine disinfection.

The District is conducting water quality monitoring activities on its reservoirs. One of the constituents analyzed for in this monitoring is *cryptosporidium*. In the earlier questionnaire, you had indicated the approximate number of cattle in the reservoir watershed. Based on that number, the acreage involved, and other factors, the District will determine if this number of cattle is significant and work towards determining whether this will be a factor in source contamination to the reservoir. The District plans to recommend to the State Department of Health Services that water quality monitoring in the reservoir is sufficient. However, if they determine that cattle drinking directly from the reservoir's edge is a threat to water quality, the District may be required to examine alternatives to this situation. If so, the District is committed to work closely with all ranchers to find a resolution satisfactory to everyone.

Please take the time to fill out the simple questionnaire that is attached and return it in the envelope provided. This additional information is important to adequately document to the Health Department the existing situations in these reservoir watersheds. If you have any questions regarding this questionnaire, I would be happy to answer them for you. I can be reached at (408) 927-0710 extension 2723 or my assistant Pam John, can be reached at 927-0710 extension 2601. Thank you very much for your continued cooperation.

Sincerely,

ORIGINAL SIGNED BY

Kathleen M. Russick
Associate Civil Engineer
Surface Water Protection Division

Enclosure

cc: W. Wadlow, F. Maitski, K. Russick, P. John, Read, File

PJ

pjcattl3.doc

ATTACHMENT 4

SAMPLE

CATTLE QUESTIONNAIRE # 2

Property Owner and Property Address:

SAN FELIPE RANCH
8825 SAN FELIPE Rd.
SAN JOSE, CA. 95135

Number of Acres on which Cattle are on:

23000 acres

Are Calves Born on this Property?

[✓ yes] no

If yes, at what month(s) of the year? Sept. – Nov.

Where do your Cattle Get their Drinking Water from?

stock ponds, springs, creeks, and well water

Do your Cattle Have Access to the Reservoir Shoreline?

yes [✓ no]

THANK YOU VERY MUCH FOR YOUR COOPERATION